MEMORANDUM TO: Deans of Education

FROM: Sue Durst
Director
Curriculum and Assessment Policy Branch

DATE: December 2, 2008

SUBJECT: Release of Revised Grades 9 and 10 Science Curriculum Policy Document
Release of Revised Grades 10-12 Computer Studies Curriculum Policy Document

The Ministry is committed to providing supports for the Student Success/Learning to 18 Initiatives. Included in these supports are revisions to provincial curriculum policy documents to maintain a high-quality education system that ensures success for all students.

In 2006 through 2007 the Ministry completed feedback consultations for the drafts of proposed revisions to: The Ontario Curriculum, Grades 9 and 10, Science, and The Ontario Curriculum, Grades 9-12, Technological Education. Input from this process and other consultations was analysed and used to guide further revisions to the draft curriculum policy documents. Please note that as a result of this process, Part B: Computer Studies of the current Grades 11 and 12 Technological Education curriculum policy document has been replaced by a new Grades 10-12 Computer Studies curriculum policy document. To meet the Group 3 additional compulsory credit requirement, students have the choice of earning one credit for a course in computer studies (Grades 10 to 12) or technological education (Grades 9 to 12), or one credit for an additional course in science (Grade 11 or 12), or one credit for a cooperative education course.

The revised curriculum policy documents for Science 9 and 10, and Computer Studies 10-12 are ready for release to school boards, schools and other education stakeholders. To facilitate implementation, copies of the revised curriculum documents were recently posted on the Ministry website in November 2008. Print copies of the documents will be distributed to school boards, schools and education stakeholders beginning in late fall 2008. Mandatory implementation of these curriculum documents begins in September 2009. Training sessions for implementation to support the delivery of the revised curriculum documents in schools are being provided across the province during the fall of 2008 and winter of 2009.
Attached for your information are appendices highlighting changes to the revised curriculum documents:

Appendix A - Revised Science, Grades 9 and 10
Appendix B - Revised Computer Studies, Grades 10-12

If you have any questions about the revised curriculum policy documents, please contact the appropriate Regional Office for information. Thank you for your ongoing support of the Ministry’s curriculum review process.

Sue Durst

cc: K. Rankin, Director, FSB
    Regional Managers
APPENDIX A: REVISED SCIENCE, GRADES 9 and 10

The revised curriculum recognizes that:

- **Curriculum expectations** must be coherent, focused and well articulated across the grades;
- **Learning** science involves the meaningful acquisition of concepts, skills and processes and the active involvement of students building new knowledge from prior knowledge and experience;
- **Teaching** science effectively requires an understanding of the knowledge and skills students need to learn and demonstrate and an ability to use a variety of instructional strategies to support meaningful learning;
- **Preparing** students with the knowledge, skills, perspectives, and practices they need to be environmentally literate is a critical role for the science program.
- **Assessment and Evaluation** must support learning and provide useful information for students and teachers;
- **Equity** focuses on meeting the diverse learning needs of students and promotes excellence for all by ensuring curriculum expectations are grade appropriate, and support a variety of teaching and learning strategies.

Summary of Changes in the Revised Science, Grades 9 and 10

- Reduction in the number of specific expectations.
- Increased emphasis on the expectations relating students’ learning to science, technology, society, and the environment (STSE). These expectations now provide a rich context for learning in all grades, and focus them on stewardship, sustainability, and the opportunity to propose and/or take action on environmental issues related to the products and practices of science.
- Inclusion of environmental education expectations and opportunities in every grade.
- Identification of Fundamental Concepts of Science.
- Integration of Big Ideas of Science and their connection to the Fundamental Concepts and the Overall Expectations.
- Articulation of program considerations for students in French-language schools by integrating the *Politique d’aménagement linguistique* in the French curriculum policy document.
- Clear descriptions of the processes of scientific investigation.
- Addition of Sample Issues, Sample Questions.
- An enhanced description of the role of parents/guardians, students, teachers, administrators, and community partners.
- Movement of content to improve developmental appropriateness, and alignment to other curriculum areas such as mathematics and post-secondary destinations.
APPENDIX B: REVISED COMPUTER STUDIES, GRADES 10-12

Summary of Changes in Revised Computer Studies, Grades 10-12

- The Grades 10-12 Computer Studies curriculum document replaces the Computer and Information Science component of *The Ontario Curriculum, Grades 9 and 10: Technological Education, 1999*, and of *The Ontario Curriculum, Grades 11 and 12: Technological Education, 2000*. The revised Grades 9-10 and Grades 11-12 Technological Education curriculum policy documents are scheduled for release in early 2009, and will now only be comprised of the ten broad based subjects. The same applies for the French-language Technological Education curriculum policy documents.

- The division of subjects into Part A (Broad-Based Technology) and Part B (Computer Studies) has been eliminated:
  - Computer and Information Science has been moved to its own discipline named Computer Studies.
  - Computer Engineering has become a Broad-based Technology subject and renamed Computer Technology.

- The existing Grades 11 (ICS3M) and 12 (ICS4M) university/college preparation courses have been replaced by separate Grade 11 university preparation (ICS3U) and college preparation (ICS3C) courses and separate Grade 12 university preparation (ICS4U) and college preparation (ICS4C) courses.

- The overall expectations have been directly linked to specific expectations, using a numbering system. Closer links between overall and specific expectations prevents ‘orphan’ expectations and will promote greater clarity of instructional and assessment processes.

- The articulation of program considerations for students in French-language schools by integrating the *Politique d'aménagement linguistique* in the French curriculum policy document.

- Each of the four Grades 11 and 12 courses deal with the role of computers in society, and include expectations regarding environmental concerns, the ethical use of computers, and career exploration.

- The Introduction includes an enhanced description of the role of parents/guardians, students, teachers, administrators, and community partners.

- The French-language curriculum policy document includes a glossary.